

**AMENDMENTS TO THE CLAIMS:**

This Listing of Claims will replace all prior versions, and listings, of Claims in the Application:

**Listing of Claims:**

Claim 1 (Currently Amended) A method of forming high resolution electronic circuits on a substrate, comprising the steps of:

(a) laminating an upper surface of said substrate with a layer of dielectric film, said layer of dielectric film having an upper surface and a lower surface, said lower surface of said layer of dielectric film being contiguous with said upper surface of said substrate;

(b) laser drilling said upper surface of said layer of dielectric film to form at least one channel in said layer of dielectric film;

(c) filling said at least one channel with an electrically conductive material;

(d) applying a release layer to said upper surface of said layer of dielectric film, said release layer having an upper surface and a lower surface, said lower surface of

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said release layer being coated with an adhesive layer, said adhesive being contiguous with and adhering to said upper surface of said layer of dielectric film; ~~and,~~

(e) heating said substrate, said layer of dielectric film, said electrically conductive material in said at least one channel, and said release layer to a temperature in a range of approximately 150°C - 175°C to enhance mechanical integrity of said conductive material within said at least one channel and to create permanent adhesion between said conductive material and said upper surface of said substrate; and

~~(e)~~ (f) removing said release layer and said layer of dielectric film adhered thereto from said substrate, thereby exposing said electrically conductive material formed, ~~and patterned~~ and remaining permanently on said upper surface of said substrate.

Claim 2 (Currently Amended): The method of forming high resolution electronic circuits on a substrate as recited in Claim 1, further comprising a ~~wherein said~~ step of laser drilling ~~forms~~ said substrate to form at least one substrate channel in said substrate.

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Claim 3 (Original): The method of forming high resolution electronic circuits on a substrate as recited in Claim 1 wherein said electrically conductive material includes silver.

Claim 4 (Original): The method of forming high resolution electronic circuits on a substrate as recited in Claim 1 wherein said electrically conductive material includes copper.

Claim 5 (Currently Amended): The method of forming a high resolution electronic circuit on a substrate as recited in Claim 1, wherein the step of filling said at least one channel with said electrically conductive material is followed by heating said substrate, said layer of dielectric film, and said electrically conductive material.

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Claim 6 (Currently Amended): The method of forming high resolution electronic circuits on a substrate as recited in Claim 5, wherein the step of heating said substrate, said layer of dielectric film, and said electrically conductive material is followed by the application of a second layer of said electrically conductive material to said at least one channel.

Claim 7 (Original): The method of forming high resolution electronic circuits on a substrate as recited in Claim 1 wherein said release layer is an acrylic coated polyester tape.

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Claim 8 (Original): The method of forming high resolution electronic circuits on a substrate as recited in Claim 1 wherein the step of laser drilling uses an ultraviolet laser.

Claim 9 (Currently Amended): The method of forming high resolution electronic circuits on a substrate as recited in Claim 1, wherein said substrate is a polyimide composition.

Claim 10 (Original): The method of forming high resolution electronic circuits on a substrate as recited in Claim 1 wherein said layer of dielectric film is a polymer layer.

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Claim 11 (Currently Amended): A method of forming high resolution electronic circuits on a substrate, comprising the steps of:

(a) laminating an upper surface of said substrate with a layer of dielectric film, said layer of dielectric film having an upper surface and a lower surface, said lower surface of said layer of dielectric film being contiguous with said upper surface of said substrate;

(b) laser drilling said upper surface of said layer of dielectric film to form at least one channel in said layer of dielectric film;

(c) filling said at least one channel with an electrically conductive material;

(d) heating said substrate, said layer of dielectric film, and said electrically conductive material in order to bake and set said electrically conductive material;

(e) applying a release layer to said upper surface of said layer of dielectric film, said release layer having an upper surface and a lower surface, said lower surface being coated with an adhesive layer, said adhesive layer being contiguous with and adhering to said upper surface of said layer of dielectric film; and,

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(f) heating said substrate, said layer of dielectric film, said electrically conductive material in said at least one channel, and said release layer to a temperature in a range of approximately 150°C - 175°C to enhance mechanical integrity of said conductive material within said at least one channel and to create permanent adhesion between said conductive material and said upper surface of said substrate; and

(g) (f) removing said release layer and said layer of dielectric film adhered thereto from said substrate, thereby exposing said electrically conductive material formed, and patterned and remaining permanently on said upper surface of said substrate.

Claim 12 (Currently Amended): The method of forming high resolution electronic circuits on a substrate as recited in Claim 11, ~~wherein said~~ further comprising a step of laser drilling forms said substrate to form at least one substrate channel in said substrate.

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Claim 13 (Original): The method of forming high resolution electronic circuits on a substrate as recited in Claim 11 wherein said electrically conductive material includes silver.

Claim 14 (Original): The method of forming high resolution electronic circuits on a substrate as recited in Claim 11 wherein said electrically conductive material includes copper.

Claim 15 (Original): The method of forming a high resolution electronic circuit on a substrate as recited in Claim 11 wherein the step of heating said substrate, said layer of dielectric film and said electrically conductive material is accomplished through radiant heat transfer.



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Claim 16 (Currently Amended): The method of forming high resolution electronic circuits on a substrate as recited in Claim 11, wherein the step of heating said substrate, said layer of dielectric film and said electrically conductive material is followed by the application of a second layer of said electrically conductive material to said at least one channel.

Claim 17 (Original): The method of forming high resolution electronic circuits on a substrate as recited in Claim 11 wherein said release layer is an acrylic coated polyester tape.

Claim 18 (Original): The method of forming high resolution electronic circuits on a substrate as recited in Claim 11 wherein the step of laser drilling uses an ultraviolet laser.

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Claim 19 (Currently Amended): The method of forming high resolution electronic circuits on a substrate as recited in Claim 11, wherein said substrate is a polyimide composition.

Claim 20 (Original): The method of forming high resolution electronic circuits on a substrate as recited in Claim 11 wherein said layer of dielectric film is a polymer layer.